

**What is claimed is:**

1. A sunscreen formulation comprising nucleic acids.
2. The sunscreen formulation of claim 1, wherein the nucleic acids are DNA.
3. The sunscreen formulation of claim 1, wherein the nucleic acids are DNA of an average size of at least about 100 base pairs.
4. The sunscreen formulation of claim 1, wherein the concentration of nucleic acids in the formulation is at least about 0.01% (w/v).
5. A method to reduce the absorption of ultraviolet radiation by the skin of a mammal, the method comprising:  
providing a sunscreen formulation comprising nucleic acids; and  
applying the sunscreen formulation to the skin of an untreated mammal to obtain  
a treated mammal.
6. The method of claim 5, wherein the nucleic acids are DNA.
7. The method of claim 5, wherein the nucleic acids are DNA of an average size at least about 100 base pairs.
8. The method of claim 5, wherein the ultraviolet radiation is UVB radiation.
9. The method of claim 5, wherein the amount of ultraviolet radiation absorbed by the skin of the treated mammal is less than the amount of ultraviolet radiation absorbed by the skin of the untreated mammal.
10. The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the treated mammal is less than about 10% of the ultraviolet radiation absorbed by the skin of the untreated mammal.
11. The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the treated mammal is less than about 5% of the ultraviolet radiation absorbed by the skin of the untreated mammal.
12. The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the treated mammal is less than about 1% of the ultraviolet radiation absorbed by the skin of the untreated mammal.

13. The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the treated mammal is less than the minimum erythema dose for the mammal after a one hour exposure to the ultraviolet radiation.
14. The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the treated mammal is less than the minimum erythema dose for the mammal after a four hour exposure to the ultraviolet radiation.
15. The method of claim 5, wherein the ultraviolet radiation absorbed by the skin of the treated mammal is less than the minimum erythema dose for the mammal after an eight hour exposure to the ultraviolet radiation.
16. The method of claim 5, wherein the mammal is human.
17. The method of claim 5, wherein the mammal is a dog or a cat.
18. A method to reduce the occurrence of skin cancer on a mammal, the method comprising:  
providing a sunscreen formulation comprising nucleic acids; and  
applying the sunscreen formulation to the skin of an untreated mammal to obtain a treated mammal.
19. The method of claim 18, wherein the nucleic acids are DNA.
20. The method of claim 18, wherein the nucleic acids are DNA of an average size at least about 100 base pairs.
21. The method of claim 18, wherein the occurrence of skin cancer on the treated mammal is less than the occurrence of skin cancer on the untreated mammal.
22. The method of claim 18, wherein the occurrence of skin cancer on the treated mammal is less than about 50% of the occurrence of skin cancer on the untreated mammal.
23. The method of claim 18, wherein the occurrence of skin cancer on the treated mammal is less than about 25% of the occurrence of skin cancer on the untreated mammal.
24. The method of claim 18, wherein the occurrence of skin cancer on the treated mammal is less than about 10% of the occurrence of skin cancer on the untreated mammal.
25. The method of claim 18, wherein the mammal is human.

26. The method of claim 18, wherein the mammal is a dog or a cat.
27. A method to reduce the sunburning of a mammal, the method comprising:  
providing a sunscreen formulation comprising nucleic acids; and  
applying the sunscreen formulation to the skin of an untreated mammal to obtain  
a treated mammal.
28. The method of claim 27, wherein the nucleic acids are DNA.
29. The method of claim 27, wherein the nucleic acids are DNA of an average size at  
least about 100 base pairs.
30. The method of claim 27, wherein the sunburning of the treated mammal is less  
than the sunburning of the untreated mammal.
31. The method of claim 27, wherein the sunburning of the treated mammal is less  
than about 50% of the sunburning of the untreated mammal.
32. The method of claim 27, wherein the mammal is human.
33. The method of claim 27, wherein the mammal is a dog or a cat.